

Code: 23ME3401

**II B.Tech - II Semester – Supplementary Examinations
DECEMBER 2025****MANUFACTURING PROCESSES
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

-
- Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 10 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each Question carries 10 marks.
4. All parts of Question paper must be answered in one place.
-

PART – A

1.a)	Explain the function of risers in casting.
1.b)	What are the major casting defects and their causes?
1.c)	What is the role of flux in welding?
1.d)	Name any four welding defects.
1.e)	What are the advantages of hot working over cold working?
1.f)	List different types of rolling mills.
1.g)	What is deep drawing, and where is it used?
1.h)	List different types of press tools.
1.i)	What are the different types of AM processes?
1.j)	What is post-processing in AM?

PART – B

			Max. Marks
UNIT-I			
2	a)	What are the different types of pattern allowances and their importance?	5 M
	b)	Explain investment casting and its applications.	5 M
OR			
3	a)	Discuss the design considerations for gating and riser systems.	5 M
	b)	Explain the solidification process of casting and its effect on casting quality.	5 M
UNIT-II			
4	a)	Explain the principle and working of Resistance welding.	5 M
	b)	Discuss various types of welded joints with neat sketches.	5 M
OR			
5	a)	Describe the process of Friction Stir Welding and its applications.	5 M
	b)	Explain the causes and remedies of common welding defects.	5 M
UNIT-III			
6	a)	Describe the wire drawing process and its applications.	5 M
	b)	Compare hot working and cold working of metals.	5 M
OR			

7	a)	Explain the importance of recovery, recrystallization, and grain growth in bulk forming.	5 M
	b)	Discuss the principle and working of hydrostatic extrusion.	5 M
UNIT-IV			
8	a)	Explain the principle of electromagnetic forming with a neat sketch.	5 M
	b)	Describe the advantages and limitations of rubber pad forming.	5 M
OR			
9	a)	What is coining in sheet metal forming? Explain with an example.	5 M
	b)	Discuss the bending process and the factors affecting spring back.	5 M
UNIT-V			
10	a)	Explain the steps involved in Additive Manufacturing.	5 M
	b)	Discuss the principle and applications of Selective Laser Sintering (SLS).	5 M
OR			
11	a)	Explain the Fused Deposition Modeling (FDM) process with a neat sketch.	5 M
	b)	Describe VAT photopolymerization with an example.	5 M